Barrier One Admix
by Concrete Moisture Solutions / dba, Barrier One Inc.

Health Product Declaration v2.1

CLASSIFICATION: 03 05 10 Concrete: Moisture Vapor Reduction Admixture

created via: HPDC Online Builder

PRODUCT DESCRIPTION: BOI Admixture, Inc., “An Affiliate Of Concrete Moisture Solutions, Inc.”, is an “education company” that happens to produce an award winning, moisture vapor reduction, shrink reducing, ASR inhibiting, corrosion impeding and concrete strengthening admixture. BOI is a revolutionary enhanced formula that produces profuse Calcium Silicate Hydrate (C-S-H) without the use of sodium silicate. This complex new prescription for use in all concrete structures ie; parking garages, bridges, roads, marine ports and other salt environments, plus interior and exterior slabs, infrastructure projects, etc; etc; promises to transform and elevate concrete to a neoteric, never economically achieved level. CMS is a U.S. based, veteran owned company with a new state of the art chemical manufacturing facility in Winter Garden, Florida that produces concrete admixes for the Tiltwall industry, structural roof decks, port shipping piers, structural retaining walls, parking garages and last but certainly not least, concrete slabs to receive moisture sensitive flooring. The BOI Admix System was developed by individuals with over four decades’ experience in the floor covering industry, chemical engineers, concrete chemistry experts and is specifically designed to solve the annual, multi-billion-dollar problem of new concrete slabs failing to meet the flooring and roofing industry mandated moisture vapor emission guidelines. Our strategic focus is NOT on selling an admix but, rather, seeing that the project owner has a successful flooring and/or roofing installation as defined by “a warranted, on time…on budget…with fully mitigated liability of the concrete products utilized”. As voting members of the ASTM 06 committee, we understand the misconception of the current flawed field moisture testing and the misguided, ill-informed understanding that a warranty is associated with such testing. BOI has advanced to a far more stringent Corp of Engineers test that exceeds moisture levels that are well in excess of any possible moisture outcome in today’s construction or finished product environment. BOI Admix is not like any other product…not like any other company…that you’ve ever dealt with. BOI Admix provides the technical support, marketing, distribution, manufacturing and onsite training for BOI Admix products and conducts hundreds of continuing educational programs (AIA/CES HSW approved) each year. We will be pleased to share our expertise with you, as well as to help you incorporate BOI Admix into your 03 and O9 Divisions.

Section 1: Summary

Basic Method / Material Threshold

CONTENT INVENTORY

Inventory Reporting Format
- ○ Nested Materials Method
- ◉ Basic Method

Threshold Disclosed Per
- ◉ Material
- ○ Product

Threshold level
- ◉ 100 ppm
- ○ 1,000 ppm
- ○ Per GHS SDS
- ○ Per OSHA MSDS
- ○ Other

Residuals/Impurities
- ○ Considered
- ○ Partially Considered
- ◉ Not Considered

Explanation(s) provided for Residuals/Impurities?
- ○ Yes ◉ No

Are All Substances Above the Threshold Indicated:

Characterized *Percent Weight and Role Provided?* ◉ Yes ○ No

Screened *Using Priority Hazard Lists with Results Disclosed?* ○ Yes ◉ No

Identified *Name and Identifier Provided?* ○ Yes ◉ No

CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

MATERIAL | **SUBSTANCE** | *RESIDUAL OR IMPURITY*
GREENSCREEN SCORE | HAZARD TYPE

BARRIER ONE ADMIX [WATER BM-4 UNDISCLOSED UNK POTASSIUM HYDROXIDE LT-P1 | MAM | SKI]

Number of Greenscreen BM-4/BM3 contents..... 1
Contents highest concern GreenScreen Benchmark or List translator Score..... LT-P1
Nanomaterial..... No

INVENTORY AND SCREENING NOTES:

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

VOC Content data is not applicable for this product category.

CERTIFICATIONS AND COMPLIANCE

See Section 3 for additional listings.

Other: ASTM C494
Other: ASTM C-157
Other: ASTM C-1260
Other: AASHTO T-259

CONSISTENCY WITH OTHER PROGRAMS

No pre-checks completed or disclosed

Third Party Verified?

- ○ Yes
- ◉ No

PREPARER: Self-Prepared
VERIFIER:
VERIFICATION #:

SCREENING DATE: 2017-03-22
PUBLISHED DATE: 2017-10-26
EXPIRY DATE: 2020-03-22

Section 2: Content in Descending Order of Quantity

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- *Basic Inventory method with Product-level threshold.*
- *Nested Material Inventory method with Product-level threshold*
- *Nested Material Inventory method with individual Material-level thresholds*

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.1, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-1-standard

BARRIER ONE ADMIX

MATERIAL THRESHOLD: 100 ppm

RESIDUALS AND IMPURITIES CONSIDERED: No

RESIDUALS AND IMPURITIES NOTES:

OTHER PRODUCT NOTES: Barrier One Admix is a very unique, complex formula that is free of all volatile organic compounds (VOC). It is specifically designed to have a natural chemical reaction with pre-existing elements inside the concrete to eliminate the route of moisture vapor emission through the slab by restricting the integral capillary system. The chemical reaction forms a permanent barrier (capillary break) that is integral to the concrete, insoluble and irremovable

WATER

ID: **7732-18-5**

%: **55.0000 - 75.0000** GS: **BM-4** RC: **None** NANO: **No** ROLE: **Solvent**

HAZARDS:	AGENCY(IES) WITH WARNINGS:
None Found	No warnings found on HPD Priority lists

SUBSTANCE NOTES: The use of deionized water is avoided to preclude attraction and clumping of heavy metals detrimental to the performance of the concrete. Potable water is standard in the concrete industry.

UNDISCLOSED

%: **20.0000 - 30.0000** GS: **UNK** RC: **None** NANO: **No** ROLE: **Binder**

HAZARDS:	AGENCY(IES) WITH WARNINGS:
None Found	No warnings found on HPD Priority lists

SUBSTANCE NOTES: *The remaining non-sodium silicate based material combination is proprietary and Trade Secret.

POTASSIUM HYDROXIDE

ID: **1310-58-3**

%: **1.0000 - 3.0000** GS: **LT-P1** RC: **None** NANO: **No** ROLE: **Catalyst**

HAZARDS:	AGENCY(IES) WITH WARNINGS:	
MAMMALIAN	EU - R-phrases	R22 - Harmful if Swallowed
SKIN IRRITATION	EU - R-phrases	R35 - Causes severe burns
SKIN IRRITATION	EU - GHS (H-Statements)	H314 - Causes severe skin burns and eye damage

SUBSTANCE NOTES: Exact percentages are proprietary in this formula

Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

OTHER **ASTM C494**

CERTIFYING PARTY: Self-declared
APPLICABLE FACILITIES: Des Moines, Iowa
CERTIFICATE URL:

ISSUE DATE:2011-09-11

EXPIRY DATE:

CERTIFIER OR LAB: Construction Materials Testing

CERTIFICATION AND COMPLIANCE NOTES: For Engineer and Ready Mix supplier verification that admixture meets compliance of Type S parameters: compressive, flexural, strength, unit weight, slump, alkali silica reaction, air content and time of set. Admixture is not an accelerator nor retarder.

OTHER **ASTM C-157**

CERTIFYING PARTY: Self-declared
APPLICABLE FACILITIES: Des Moines, Iowa
CERTIFICATE URL:

ISSUE DATE:2011-08-15

EXPIRY DATE:

CERTIFIER OR LAB: Construction Materials Testing

CERTIFICATION AND COMPLIANCE NOTES: Results indicate significantly reduced shrinkage upon completion of 64 weeks. Light Weight Control vs. Light Weight Test = 77% Reduction Normal Weight Control vs. Normal Weight Test = 84% Reduction

OTHER **ASTM C-1260**

CERTIFYING PARTY: Self-declared
APPLICABLE FACILITIES: Des Moines, Iowa
CERTIFICATE URL:

ISSUE DATE:2011-07-21

EXPIRY DATE:

CERTIFIER OR LAB: Construction Materials Testing

CERTIFICATION AND COMPLIANCE NOTES: All Control samples failed within 10days due to a greater than .10% expansion/contraction. All Test samples were mitigated of this failure with the use of Barrier One. Aggregates Tested: Minnesota Quartzite, Kansas City Quartzite, Sand Tested: Missouri River Sand, Kimball Sand, Elkhorn Sand

OTHER **AASHTO T-259**

CERTIFYING PARTY: Self-declared
APPLICABLE FACILITIES: Des Moines, Iowa
CERTIFICATE URL:

ISSUE DATE:2015-04-20

EXPIRY DATE:

CERTIFIER OR LAB: Construction Materials Testing

CERTIFICATION AND COMPLIANCE NOTES: Results of testing conclude that Barrier One reduced the Chloride Ion Penetration via ponding method by 68%

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or

fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

CONCRETE MIXES HPD URL: **No HPD link provided**

CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES:

Internally, Barrier One, Inc. completely shuts down the route of moisture vapor emission from/through concrete. The Barrier One Admix System was developed by individuals with over four decades experience in the floor covering industry and is specifically designed to solve the annual, multi-billion dollar problem of new construction concrete slabs failing to meet the flooring/roofing industry mandated moisture vapor emission guidelines. Please consult website for product data sheet and industry leading product warranties.

Section 5: General Notes

Section 6: References

MANUFACTURER INFORMATION

MANUFACTURER: **Concrete Moisture Solutions / dba, Barrier One Inc.**
ADDRESS: **640 Garden Commerce Parkway Winter Garden Florida 34787, USA**
WEBSITE: **www.barrierone.com**

CONTACT NAME: **Richard Koon**
TITLE: **Senior Principal**
PHONE: **407-484-2604**
EMAIL: **rakoon@barrierone.com**

KEY

OSHA MSDS Occupational Safety and Health Administration Material Safety Data Sheet
GHS SDS Globally Harmonized System of Classi cation and Labeling of Chemicals Safety Data Sheet

Hazard Types

AQU Aquatic toxicity
CAN Cancer
DEV Developmental toxicity
END Endocrine activity
EYE Eye irritation/corrosivity
GEN Gene mutation
GLO Global warming
MAM Mammalian/systemic/organ toxicity
MUL Multiple hazards
NEU Neurotoxicity
OZO Ozone depletion
PBT Persistent Bioaccumulative Toxic
PHY Physical Hazard (reactive)
REP Reproductive toxicity
RES Respiratory sensitization
SKI Skin sensitization/irritation/corrosivity
LAN Land Toxicity
NF Not found on Priority Hazard Lists

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)
BM-3 Benchmark 3 (use but still opportunity for improvement)
BM-2 Benchmark 2 (use but search for safer substitutes)
BM-1 Benchmark 1 (avoid - chemical of high concern)
BM-U Benchmark Unspeci ed (insu cient data to benchmark)
LT-P1 List Translator Possible Benchmark 1
LT-1 List Translator Likely Benchmark 1
LT-UNK List Translator Benchmark Unknown (insufficient information from List Translator lists to benchmark)
NoGS Unknown (no data on List Translator Lists)

Recycled Types

PreC Preconsumer (Post-Industrial)
PostC Postconsumer
Both Both Preconsumer and Postconsumer
Unk Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms

Inventory Methods:

Nested Method / **Material Threshold** Substances listed within each material per threshold indicated per material
Nested Method / **Product Threshold** Substances listed within each material per threshold indicated per product
Basic Method / **Product Threshold** Substances listed individually per threshold indicated per produc

Nano Composed of nano scale particles or nanotechnology
Third Party Verified Verification by independent certifier approved by HPDC
Preparer Third party preparer, if not self-prepared by manufacturer
Applicable facilities Manufacturing sites to which testing applies

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The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard v2.1 is not:

- *a method for the assessment of exposure or risk associated with product handling or use,*
- *a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.*

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

The HPD Open Standard was created and is supported by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry that is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD standard noted.